

AD-A122 610 19314A MLRS MISSILE NUMBERS BC-114 BC-127 BC-118 ROUND 1/1
NUMBERS V-333/PO-7: (U) ARMY ELECTRONICS RESEARCH AND
DEVELOPMENT COMMAND WSMR NM ATM. D C KELLER NOV 82
UNCLASSIFIED ERADCOM/ASL-DR-1263 F/G 4/2 NL

19314A MLRS MISSILE NUMBERS BC-114 BC-127 BC-118 ROUND
NUMBERS V-333/PQ-7: (U) ARMY ELECTRONICS RESEARCH AND
DEVELOPMENT COMMAND WSMR NM ATM. D C KELLER NOV 82

148

UNCLASSIFIED

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F/G 4/2

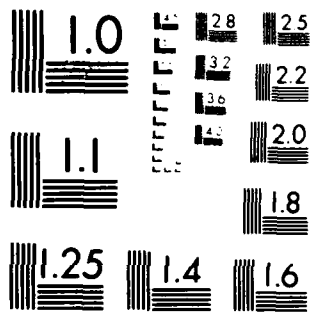
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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

AD A 122610

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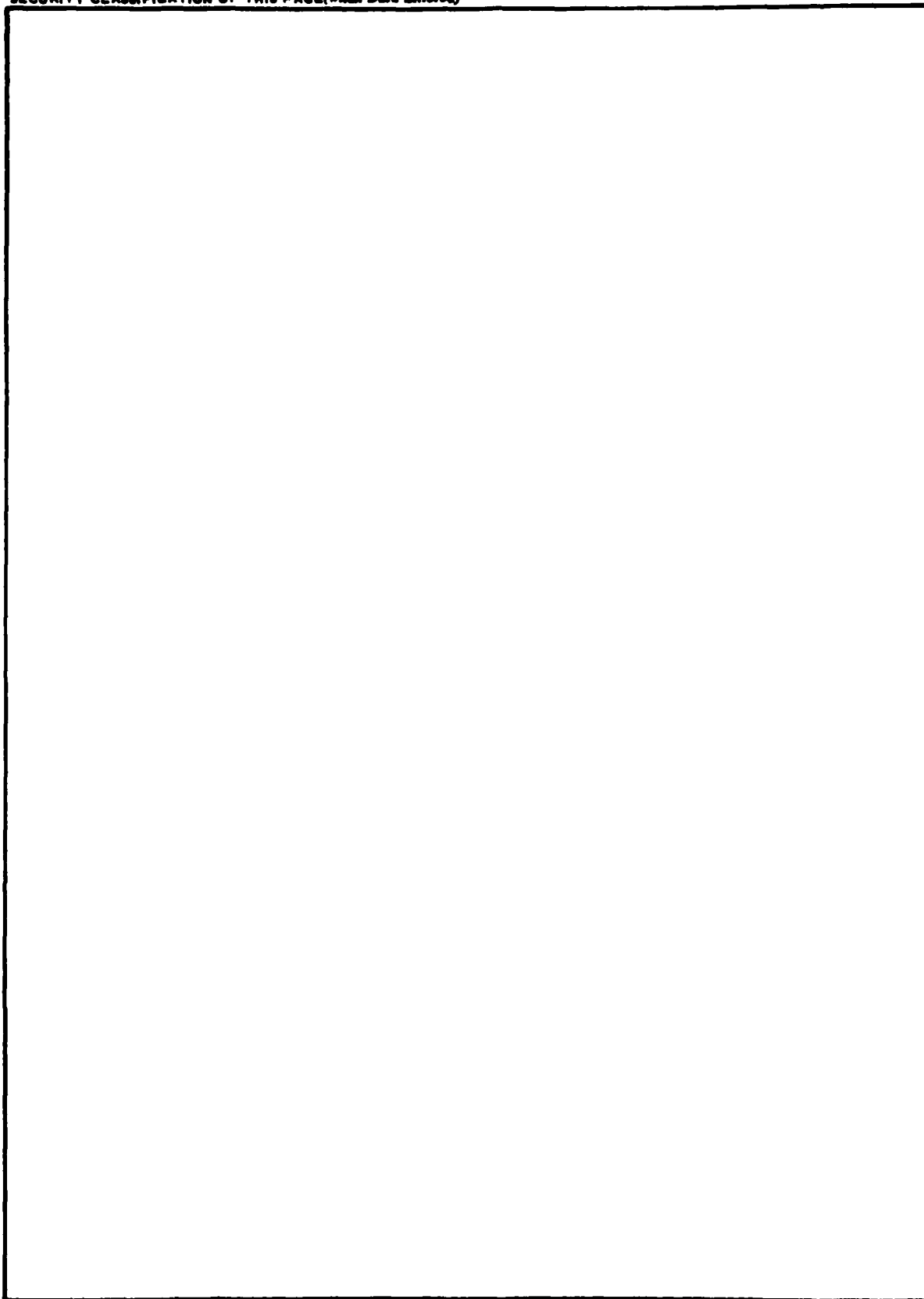
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INTRODUCTION

19314A MLRS, Missile Numbers BC-114, BC-127 and BC-118, Round Numbers V-333/PQ-73, V-334/PQ-74 and V-335/PQ-75, were launched from DEADHORSE, White Sands Missile Range (WSMR), New Mexico, at 0941:16, 0941:21 and 0941:25 MDT, 13 Oct 82. The scheduled launch times were 0930, 0930:04.5 and 0930:09 MDT.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations

a. Surface

(1) Standard surface observations to include pressure, temperature ($^{\circ}\text{C}$), relative humidity, dew point ($^{\circ}\text{C}$), density (gm/m^3), wind direction and speed, and cloud cover were made at the DEADHORSE Met Site at T-0 minutes.

(2) Anemometer data were provided from existing tower-mounted anemometers at DEADHORSE. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

b. Upper Air

(1) Low level wind data were obtained from a Double Theodolite Pilot Balloon observatinn at:

SITE AND ALTITUDE

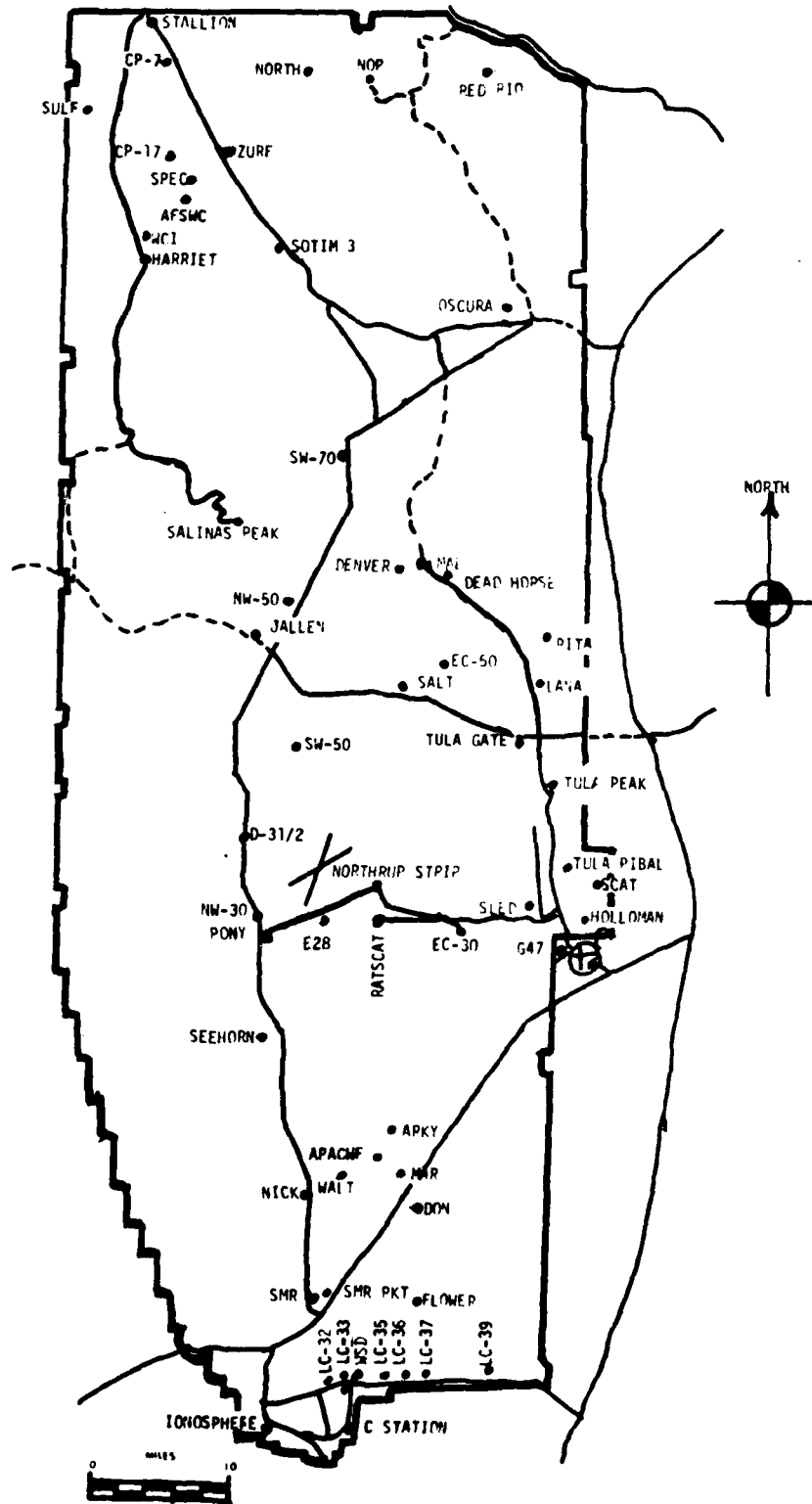
MAL 2 km

(2) Air structure data (rawinsonde) were collected at the following Met Sites.

SITE AND TIME

LANA 0730 MDT
RITA 0800 MDT
LANA 0940 MDT

WSMR METEOROLOGICAL SITES



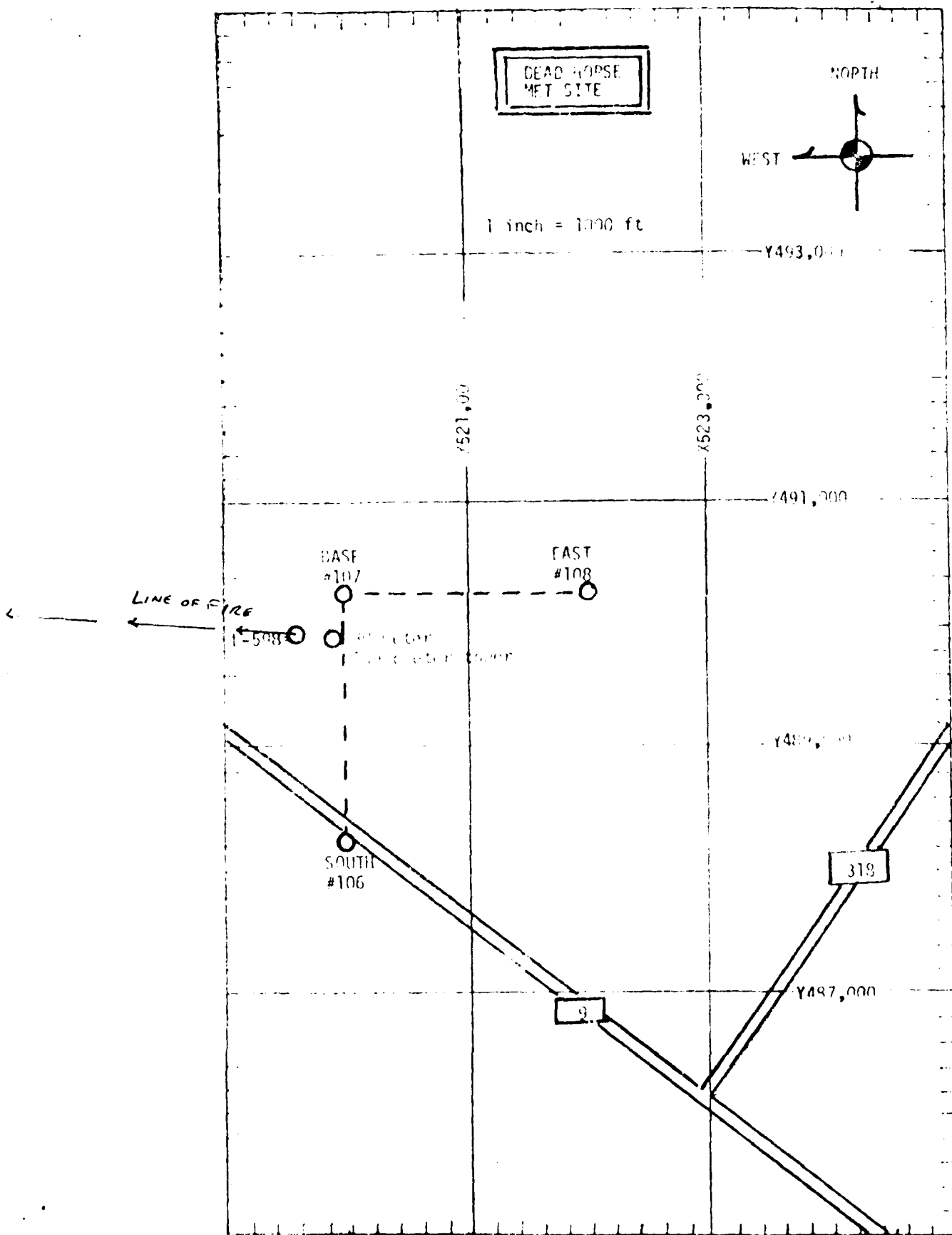


TABLE 1	STATIC DEADHORSE	
DATE 13	Oct	32
	Y= 519,982.11	Y= 490,249.23 H= 4133.12

[illegible]

OBSTRUCTIONS TO VISIBILITY	CLOUDS						REMARKS
	1st LAYER		2nd LAYER		3rd LAYER		
	AMT	TYPE	HGT	AMT	TYPE	HGT	
0							CLEAR

PSYCHOMETRIC COMPUTATION

TIME:	0940
DRY BULB TEMP.	9.4
WET BULB TEMP.	6.4
WET BULB DEPR.	3.0
DEW POINT	3.6
RELATIVE HUMID.	67

TABLE 2

ANEMOMETER DATA *
30 FOOT LEVEL OF 30 METER TOWER

X= 519,923.74 Y= 489,901.20 H= 4132.51 (BASE)

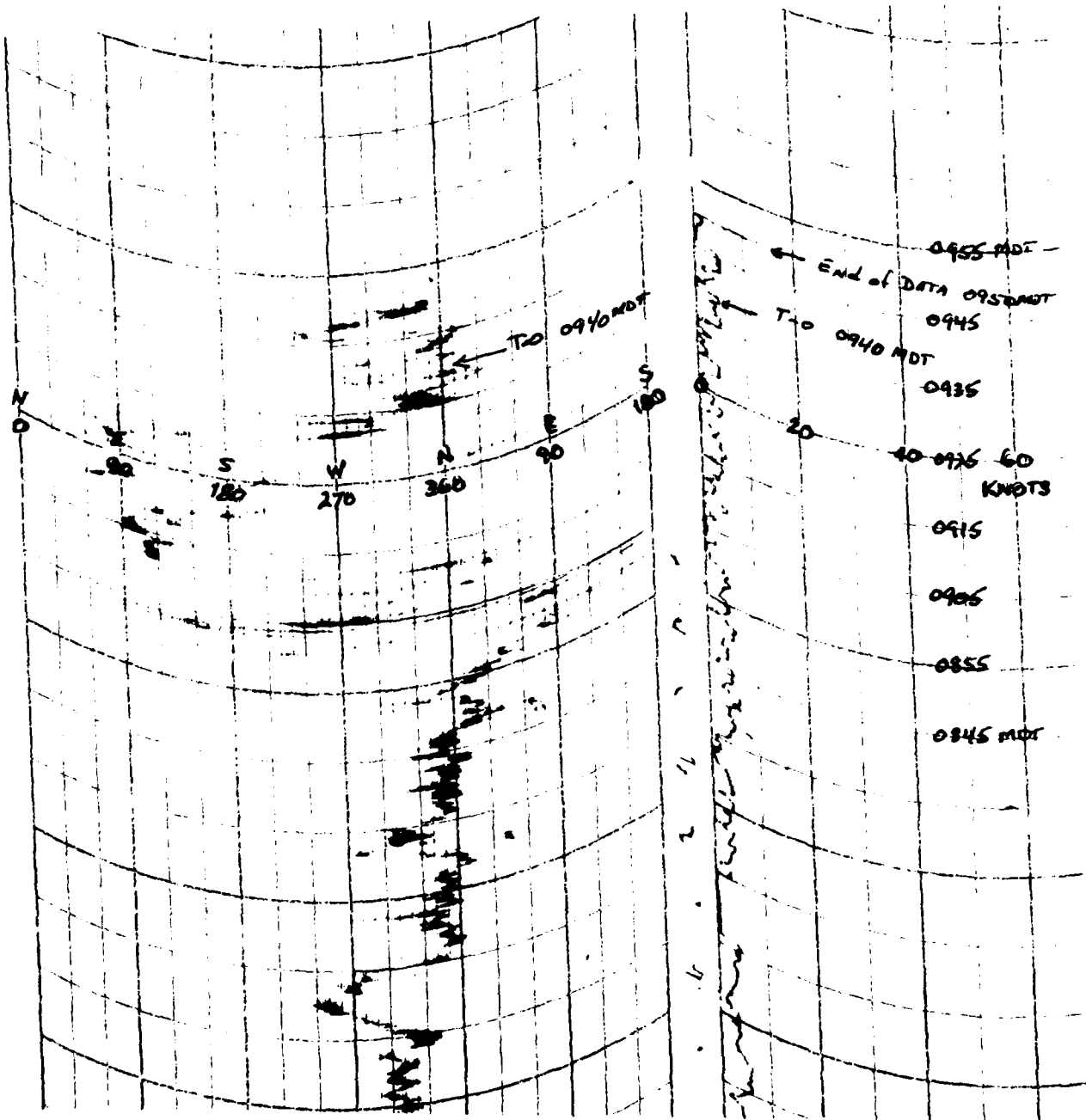
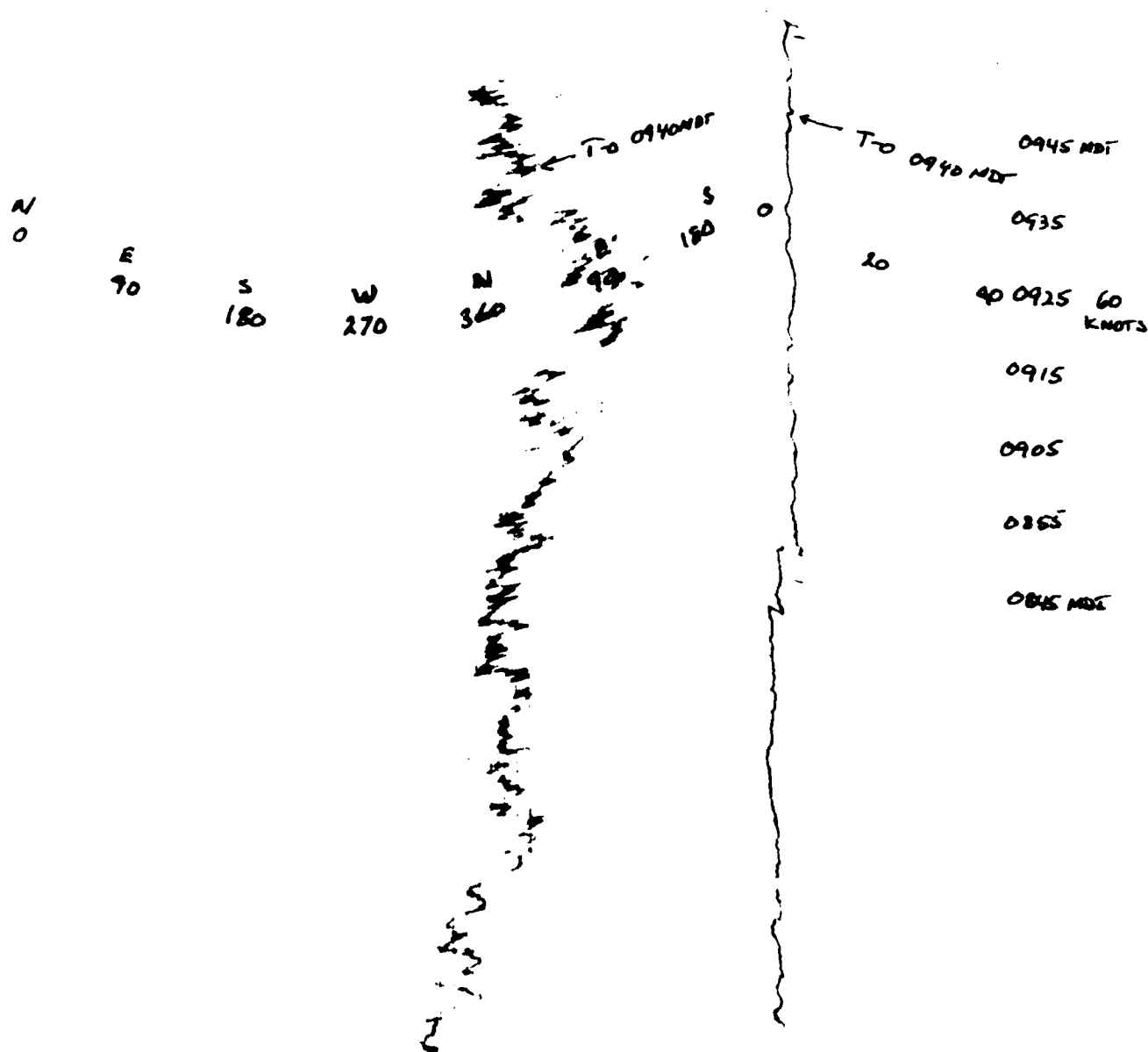


TABLE 3

ANEMOMETER DATA
60 FOOT LEVEL OF 30 METER TOWER

X- 519,923.74 Y- 489,901.20 H-4132.51 (BASE)



10. 11. 1991

N
 0
 E 90
 S 180
 W 270
 E 90
 S 180

0945 MBT
 0940 MBT
 20
 00435 60
 KNOTS
 0925
 0916
 0905
 0855
 0845 MBT

TABLE 5

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 13 Oct 82

SITE: MAL
TIME: 0940 MDT
WSTM COORDINATES:
X= 509,421.05
Y= 495,563.18
H= 4,126.31

<u>LAYER MIDPOINT</u> <u>METERS AGL</u>	<u>DIRECTION</u> <u>DEGREES</u>	<u>SPEED</u> <u>KNOTS</u>
SURFACE	020	04
150	018	07
210	022	06
270	032	08
330	043	07
390	043	07
500	038	06
650	030	10
800	029	10
950	031	07
1150	332	01
1350	167	03
1550	144	02
1750	135	06
2000	110	10

TABLE 6

AIMING AND T-TIME COMPUTER MET MESSAGES

13 Oct 82

LANA 0750 MDT		RITA 0800 MDT	
METCM1331062		METCM1332062	
131360127879		131400128880	
00338002	27730879	00000000	27650880
01154001	27830868	01570003	27880870
02311005	29010843	02314007	27980844
03305005	27810802	03316006	27810803
04230006	27630755	04207004	27630755
05142012	27270709	05167012	27310710
06101006	26960666	06099011	26980667

LANA 0940 MDT
 METCM1331062
 141570127879
 00000000 28390879
 01025002 28300869
 02326001 28090843
 03218004 27870803
 04159012 27630755
 05156011 27300709
 06056002 26930666

GEODLTIC COORDINATES
33.13510 LAT DEG
106.15446 LON DEG

SIGNIFICANT LEVEL DATA
2860320010

LANA

TABLE 7

STATION: ALTITUDE 4173.04 FEET MSL
13 OCT. 82 0730 HRS MDT
ASCENSION: NO. 10

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CELSIUS	REL. HUM. PERCENT
878.6	4173.4	3.6	88.0
861.6	4698.7	7.1	91.0
850.0	5065.6	7.3	89.0
845.4	5212.7	7.6	85.0
796.4	6824.1	5.2	77.0
777.0	7485.5	4.0	65.0
732.4	9063.4	2.5	57.0
703.0	10145.8	-1.8	60.0
700.0	10258.1	-1.6	61.0
659.0	11835.7	-3.4	44.0
642.0	12513.9	-4.3	43.0
617.0	13540.0	-5.8	34.0
600.0	14257.5	-7.4	33.0

STATION ALTITUDE 4173.44 FEET MSL
13 OCT. 82
ASCENSION NO. 10

UPPER AIR DATA
2860320010
LAVA
TABLE 0

GEODETIC COORDINATES
33.13510 N LAT
106.13440 E LONG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM ³ METER	SPEED OF SOUND M/SEC	WIND DATA DIRECTION SPEED KNOTS	INDEX OF REFRACTION
4173.4	878.6	3.6	88.0	1102.0	649.1	190.0	1.000280
4500.0	850.0	5.8	89.9	1090.2	651.0	184.7	1.000281
5000.0	852.1	7.3	86.9	1050.4	653.7	179.7	1.000278
5500.0	830.4	7.2	83.6	1030.5	653.5	170.0	1.000272
6000.0	821.1	6.4	81.1	1010.6	652.0	174.0	1.000265
6500.0	800.0	5.7	78.6	1000.0	651.0	158.4	1.000259
7000.0	791.2	5.0	73.8	987.7	650.0	132.0	1.000252
7500.0	776.6	4.6	64.0	971.5	650.1	110.5	1.000243
8000.0	762.2	3.9	62.4	955.9	649.3	111.4	1.000238
8500.0	748.0	3.2	59.9	940.0	648.4	100.1	1.000232
9000.0	734.1	2.6	57.3	925.5	647.0	90.0	1.000227
9500.0	720.4	1.2	58.2	913.0	645.9	87.0	1.000223
10000.0	700.9	-4.4	59.6	901.0	644.1	61.0	1.000219
10500.0	693.6	-1.0	58.0	880.5	643.2	70.5	1.000214
11000.0	680.4	-1.9	53.0	872.5	642.1	70.0	1.000209
11500.0	667.5	-2.8	47.0	859.0	641.0	60.9	1.000204
12000.0	654.0	-3.6	43.0	845.4	640.0	51.2	1.000199
12500.0	642.3	-4.3	43.0	831.5	639.2	43.2	1.000195
13000.0	630.0	-5.0	38.7	817.7	638.2		1.000191
13500.0	618.0	-5.7	34.4	804.4	637.5		1.000186
14000.0	600.0	-5.8	33.4	792.1	636.0		1.000183

STATION ALTITUDE 4173.44 FEET WSL
 13 OCT. 62 0730 HRS MDT
 ASCENSION NO. 10

MANDATORY LEVELS
 2000 FT 0010
 LANA
 TABLE 0

GEODLTIC COORDINATES
 33.13510 LAT DEG
 106.13440 LONG DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE		DIRECTION DEGREES (IN)	SPEED KNOTS
950.0	5062.	7.3	5.1	80.	179.3	3.2
900.0	6698.	5.4	1.8	70.	147.4	4.6
750.0	8424.	3.3	-3.0	60.	107.7	0.6
700.0	10249.	-0.6	-7.2	61.	78.8	10.9
650.0	12100.	-3.9	-14.4	43.	10.7	3.1
600.0	14242.	-7.4	-20.9	33.		

STATION ALTITUDE 4186.74 FEET MSL
 13 OCT. 82
 ASCENSION 110. 10

SIGNIFICANT LEVEL DATA
 2800010010
 WITA

TABLE 10

PRESSURE GEOGRAPHIC ALTITUDE WILLIBARS MSL FEET	TEMPERATURE AIR DEPT. VALUE OF FEET CENTIGRADE	REL. HUM. PERCENT
880.4 4186.7	2.6 1.9	95.0
860.4 4523.2	5.8 5.1	89.0
850.0 5130.6	5.6 5.1	84.0
843.1 5350.1	6.0 5.5	83.0
802.8 6664.6	3.9 -1.1	75.0
785.8 7236.3	3.6 -2.1	60.0
765.6 7930.5	2.2 -3.2	64.0
736.4 8963.4	1.7 -5.9	57.0
700.0 10298.8	-1.5 -6.9	57.0
670.8 11409.6	-3.9 -11.1	57.0
654.1 11866.0	-4.1 -14.2	45.0
648.3 12294.1	-4.4 -15.5	42.0
602.6 13879.5	-7.2 -21.8	30.0

STATION ALTITUDE 4186.74 FEET MSL
13 OCT. 62
ASCENSION NO. 10

UPPER AIR DATA
2800210010
RITA
TABLE 11

GEODETIC COORDINATES
33.18295 LAT DEG
106.15114 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM ³	WIND SPEED KNOTS	WIND DIRECTION DEGREES (TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
4186.7	880.4	2.6	95.0	1108.9	047.9	0	0	1.000262
4500.0	870.2	5.6	89.4	1093.7	051.0	166.6	1.1	1.000261
5000.0	854.1	5.6	85.1	1063.0	051.0	166.6	2.8	1.000275
5500.0	838.4	5.8	82.1	1043.0	051.7	166.6	4.6	1.000269
6000.0	824.0	5.0	79.0	1027.5	050.7	166.6	6.3	1.000263
6500.0	807.7	4.2	76.0	1011.7	049.7	177.0	6.0	1.000256
7000.0	792.8	3.7	63.7	994.0	049.1	159.7	5.3	1.000249
7500.0	778.1	3.3	65.3	977.9	048.0	142.0	4.8	1.000243
8000.0	763.6	2.8	63.7	961.0	047.9	123.0	4.8	1.000238
8500.0	749.4	2.2	60.1	945.9	047.2	100.5	6.0	1.000232
9000.0	735.4	1.6	57.0	930.5	046.4	90.9	7.6	1.000227
9500.0	721.6	.4	57.0	917.1	045.0	95.1	9.6	1.000222
10000.0	708.0	-0.8	57.0	903.9	043.5	92.5	11.3	1.000218
10500.0	694.6	-1.9	57.0	890.7	042.1	79.9	11.6	1.000214
11000.0	681.4	-3.0	57.0	877.4	040.8	68.2	11.9	1.000210
11500.0	668.5	-3.9	54.6	863.8	039.7	53.3	10.2	1.000205
12000.0	655.7	-4.2	44.1	848.3	039.3	52.9	8.5	1.000199
12500.0	643.1	-4.8	40.4	833.9	038.0	357.4	6.9	1.000195
13000.0	630.8	-5.6	36.7	820.7	037.5			1.000191
13500.0	618.6	-6.5	32.9	807.7	036.4			1.000186

STATION ALTITUDE 4186.74 FEET MSL
13 OCT. 82 0800 HRS MDT
ASCENSION NO. 10

MANDATORY ELEMENTS
280010010
P-11A
TABLE 12

GEODETIC COORDINATES
33.18295 LAT DEG
106.15114 LONG DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE	PERCENT	DIRECTION DEGREES (TN)	SPEED KNOTS	
650.0	5127.	5.6	3.1	84.	180.8	3.3	
600.0	6753.	3.0	-0.4	74.	168.7	5.6	
750.0	8471.	2.3	-4.6	60.	107.1	0.0	
700.0	10289.	-1.5	-8.9	57.	85.0	11.5	
650.0	12214.	-4.4	-15.2	42.	19.1	7.4	

GEOPOLIC COORDINATES
33-15510 LAT DEG
106-15446 LONG DEG

SIGNIFICANT LEVEL DATA

2860321011
LANA

TABLE 13

STATION ALTITUDE 4173.44 FEET MSL
13 OCT. 82 0940 HRS MDT
ASCENSION I.O. 11

PRESSURE	GEOPOLIC	TEMPERATURE	REL. HUM.
MILLIBARS	ALTITUDE	ALL DEWPOINT	PERCENT
	MSL FEET	DEGREES CENTIGRADE	
279.3	4173.4	10.0	55.0
840.7	5104.3	7.1	70.0
834.4	5595.3	6.6	73.0
798.1	6791.2	4.5	65.0
740.9	8773.2	1.9	58.0
690.6	10285.1	-1.3	49.0
674.6	11234.6	-3.5	51.0
650.9	12162.7	-4.2	40.0
599.5	14202.7	-7.1	29.0

STATION ALTITUDE 4173.04 FEET MSL
 15 OCT. 82
 ASCENDING NO. 11
 0940 HRS MDT
 UPPER AIR DATA
 20,0320011
 LAT/LON
 GEODETIC COORDINATES
 33.13510 LAT DEG
 106.15440 LON DEG

TABLE 14

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CM ³ METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE				DIRECTION DEGREES (TN)	SPEED KNOTS	
4173.4	879.3	10.0	3.7	65.0	1073.1	650.7	00	0	1.000278
4500.0	868.8	9.0	3.1	66.8	1069.2	650.5	174.4	0.6	1.000275
5000.0	853.0	7.4	2.2	69.4	1055.7	653.0	174.4	1.6	1.000270
5500.0	837.3	6.7	2.1	72.4	1039.0	652.8	174.4	2.6	1.000266
6000.0	821.9	5.9	0.9	70.3	1023.1	651.7	174.4	3.6	1.000260
6500.0	806.8	5.0	-0.6	66.9	1007.0	650.0	122.0	4.2	1.000253
7000.0	791.9	4.2	-1.0	64.3	992.0	649.7	97.8	6.8	1.000247
7500.0	777.2	3.6	-2.9	62.5	976.0	648.0	09.1	9.2	1.000242
8000.0	762.7	2.9	-3.9	60.7	960.3	646.0	06.5	11.0	1.000237
8500.0	748.5	2.3	-4.9	59.0	944.8	647.2	09.2	11.6	1.000232
9000.0	734.6	1.4	-6.2	56.6	930.1	646.2	09.7	12.0	1.000226
9500.0	720.8	0.4	-7.9	53.7	916.4	644.9	09.2	12.3	1.000221
10000.0	707.2	-0.7	-9.6	50.7	902.8	643.0	07.8	10.0	1.000216
10500.0	693.9	-1.8	-11.0	49.5	889.5	642.2	05.0	7.6	1.000212
11000.0	680.7	-3.0	-11.0	50.5	876.4	640.8	76.4	5.0	1.000208
11500.0	667.7	-3.7	-13.1	47.9	862.2	639.9	51.6	3.1	1.000204
12000.0	655.0	-4.1	-15.1	41.9	847.1	639.4	05.9	2.8	1.000199
12500.0	642.4	-4.7	-16.7	38.3	832.8	638.7	057.2	4.1	1.000194
13000.0	630.1	-5.3	-18.1	35.7	818.9	637.0	027.8	5.7	1.000190
13500.0	618.0	-6.0	-19.6	33.1	805.3	637.0			1.000186
14000.0	606.1	-6.7	-21.2	30.5	791.9	636.1			1.000182

MANDATORY LEVELS
2800320011
LANA

MANDATORY LEVELS
2800320011
LANA

STATION ALTITUDE 4173.44 FEET MSL
13 OCT. 82 0040 HRS MDT
ASCENSION NO. 11

GEODETIC COORDINATES
33-13510 LAT DEG
106-15446 LONG DEG

TABLE 15

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE		DIRECTION DEGREES (IN)	SPEED KNOTS
650.0	5091.	7.1	2.0	70.	174.4	1.8
600.0	6722.	4.6	-1.3	62.	107.6	5.3
750.0	8442.	2.3	-4.8	59.	80.9	11.5
700.0	10261.	-1.3	-10.0	49.	60.8	8.7
650.0	12186.	-4.2	-15.0	40.	347.4	3.2
600.0	14245.	-7.1	-22.0	29.		

DATE
ILME